

**A NEW SPECIES OF *MYOLEPTA* (DIPTERA: SYRPHIDAE)
FROM NEPAL, WITH ITS PHYLOGENETIC PLACEMENT
AND A KEY TO ORIENTAL SPECIES**

BRIAN M. WIEGMANN

Maryland Center for Systematic Entomology, Department of Entomology,
University of Maryland, College Park, Maryland 20742

Abstract.—A new species, *Myolepta graciliventr* Wiegmann (Diptera: Syrphidae), is described from Nepal. A revised key to the Oriental *Myolepta* is included. Phylogenetic relationships among subgroups of the genus are reviewed.

Three species of Oriental *Myolepta* have previously been described, one from the Himalayas and two from Thailand. A new species from Nepal is described in this paper. The genus *Myolepta* is traditionally distinguished by its short antenna that are about half as long as the face with an oval third segment, spinose femora, bare metasternum, and dimorphic face (male with tubercle and female without tubercle). Assessing apomorphic character states, Thompson (1974) divided *Myolepta* into 6 groups: *scintillans* and *strigilata* groups for the New World species and *africana*, *petiolata*, *orientalis* and *luteola* groups for the Old World. The *luteola* group has retained the primitive pilose condition of the katepimeron and metasternum (Thompson, 1974). The New World groups, *scintillans* and *strigilata*, are characterized by their scale-like pile and bare metasternum, while the divergence of the Old World groups is evidenced by an elongation of the third antennal segment. Within the tribe Chrysogasterini, the presence of femoral spines on all legs is a synapomorphy uniting *Myolepta* and its sister-group *Lepidomyia* Loew (Thompson, 1972). The species of *Lepidomyia* differ from the *Myolepta* by the presence of a facial tubercle in both the male and female. The phylogenetic relationships within the genus *Myolepta* are shown in Figure 1.

While retaining Thompson's classification of the new world *Myolepta*, a revision must be made of the Old World groups with the addition of the new species, *M. graciliventr*. *M. himalayana* Brunetti (1923) is the only previously described *Myolepta* from the Himalayan region; its short antennae and oval third antennal segment placed it in the *luteola* group. The two species from Thailand, however, differ by having elongate antennae, as long as or longer than face, and an elongate third antennal segment (synapomorphy) (Thompson, 1974). The three Ethiopian species also possess elongate antennae. These species, the *africana* group, form the sister group to the *orientalis*, the only other Old World group with scale-like pile (Thompson, 1974). The new species, *M. graciliventr*, is easily distinguished by its only slightly constricted ventrally curved abdomen, greater than half its maximum width at its minimum, an apomorphic character with respect to the *orientalis* group. The abdomen of *petiolata* is strongly petiolate, less than half its maximum width at its minimum, while that of *orientalis* is oval. Despite its Himalayan distribution, *M. graciliventr*

appears to be more closely related to the Thai species than to *M. himalayana*, as it lacks the prominent facial tubercle in the male and has elongate antennae. Consequently, *M. graciliventris* can be considered a plesiomorphic sister-group to both *africana* and *orientalis* groups due to its lack of scales, and apomorphic with respect to *petiolata* on the basis of scutellar sulcus (Fig. 1). A revised key to the Oriental *Myolepta* follows.

KEY TO THE ORIENTAL SPECIES OF *Myolepta*

1. Antennae short, less than one-half as long as face; third antennal segment oval; scutellum black (India) *himalayana* Brunetti (1923)
- Antennae long, about as long as or longer than face; third antennal segment elongate; scutellum not all black, with some light color 2
2. Abdomen petiolate, less than half its maximum width at its minimum; scutellum orange, without marginal sulcus (Thailand) *petiolata* Thompson (1971)
- Abdomen not petiolate, oval or only slightly constricted at base, greater than half its maximum width at its minimum; scutellum black with some light color, with marginal sulcus 3
3. Abdomen oval; scutellum black, with a yellow apical sulcus (Thailand)
..... *orientalis* Thompson (1971)
- Abdomen slightly constricted at base of second segment, greater than half its maximum width at its minimum (Fig. 3); scutellum black with white apical sulcus (Nepal)
..... *graciliventris*, new species

Myolepta graciliventris, new species

Figs. 2–6

Description. A blackish, gray pollinose fly with a slightly constricted abdomen and black scutellum with a white apical sulcus.

Holotype male. Head (Fig. 4): Face golden pollinose with short gold pile; gena and clypeus shiny dark brown and bare; anterior tentorial pit extending $\frac{3}{4}$ length to antennal base; frontal triangle golden pollinose; frontal lunule shiny, orange; vertex shiny, black, elongate; occiput white pollinose with white setae along margin, bare along eye margins. Antennae nearly as long as face, yellow except with first segment slightly darker; third segment elongate, more than twice as long as wide; first segment with three short black dorso-apical bristles; second segment with six short black dorso-apical bristles, with first apical bristle prominent; arista orange basally, dark orangish-brown apically, as long as antenna. Eye contiguity as long as ocellar triangle.

Thorax (Fig. 3): Dorsum slightly longer than broad, brownish-black, gray pollinose with short pale golden hairs: transverse suture discontinuous golden pollinose, extending $\frac{1}{3}$ over dorsum on each side; pronotum gray pollinose, with pollinosity extending onto anterior margin of scutum; postpronotal lobe gray pollinose, except apical $\frac{1}{4}$ shiny, brownish-black and bare; postalar callus lighter brown with short golden hairs; scutellum dark brownish-black fading gradually to white apical margin, with broad apical marginal sulcus, and short golden hairs; proepisternum gray pollinose with pale golden hairs; proepimeron bare, gray pollinose; anepisternum shiny black, lightly gray pollinose with pale golden hairs on anterior $\frac{1}{2}$, heavily gray pollinose with pale golden hairs on convex posterior $\frac{1}{2}$; notopleuron gray pollinose with pale golden hairs; anepimeron shiny, black, lightly gray pollinose with pale golden

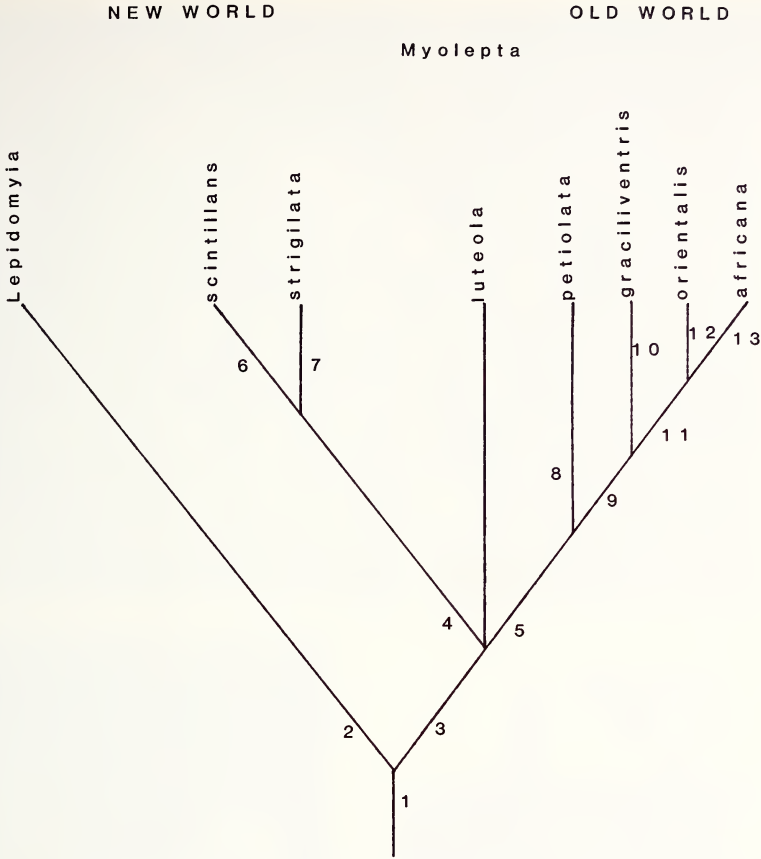


Fig. 1. Phylogeny of the genus *Myolepta* Newman. The autapomorphic character states used are: 1, femoral spines on all legs; 2, elongation of antennae, bare metasterna and presence of scale-like pile; 3, loss of facial tubercle in female; 4, bare metasterna and presence of scale-like pile; 5, elongation of third antennal segment and bare metasternum; 6, triangular scutellum; 7, bare face and cheeks; 8, petiolate abdomen; 9, broad apical scutellar sulcus; 10, slightly constricted abdomen; 11, presence of scale-like pile; 12, oval abdomen; 13, triangular scutellum.

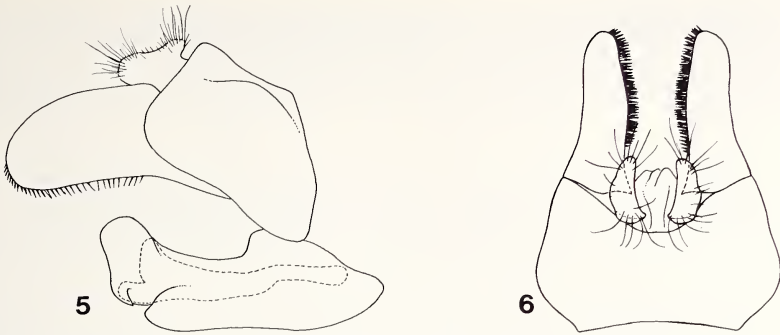
hairs; katepisternum gray pollinose with pale golden hairs on upper apical $\frac{1}{3}$; katepimeron bare, metasternum bare, lightly gray pollinose; katatergite shiny black, gray pollinose with dense pale golden hairs; anatergite bare, lightly gray pollinose; meron shiny black, bare, lightly gray pollinose; squama white with long golden hairs on apical margin; halter yellow. Legs: coxae light brown, gray pollinose; trochanters golden; femora golden except with apical $\frac{1}{3}$ of forefemur and midfemur and apical $\frac{1}{2}$ of hindfemur dark brown on dorsal surface, with short pale golden hairs; foretibiae and midtibia golden with apical $\frac{1}{3}$ dark brown on dorsal surface, with short pale golden hairs; hindtibia golden except with apical $\frac{1}{2}$ dark brown on dorsal surface; first and second tarsomeres golden; tarsomere three on midleg golden, on foreleg and



Figs. 2-4. *Myolepta graciliventris*. 2. Habitus, lateral view. 3. Abdomen, dorsal view. 4. Head, lateral view.

hindleg brownish-black, apical two tarsomeres brownish-black dorsally; pulvilli golden. Wings: hyaline except brown apical $\frac{1}{2}$ of stigma, microtrichose except entire first costal cell, all except apical $\frac{1}{8}$ of second costal cell, first basal cell except along spurious vein, all except anteroapical $\frac{1}{4}$ of second basal cell and posterior to basal $\frac{1}{4}$ of anal cell.

Abdomen (Fig. 3): Longer than thorax, slightly constricted at base of second seg-



Figs. 5, 6. *Myolepta graciliventrис* male terminalia. 5. Lateral view. 6. Dorsal view.

ment, widening posteriorly, greater than $\frac{1}{2}$ its maximum width at its minimum, curved ventrally after second segment. Dorsum dark brownish-black, first segment gray pollinose, laterally brownish-black with long white hairs; second segment gray pollinose with short appressed black hairs, laterally brownish-black with long white hairs basally; apical margins of second and third terga with thin, densely golden pollinose stripe; third tergum dark brownish-black with short appressed black hairs, laterally with golden hairs; fourth tergum dark brownish-black with long appressed golden hairs and orange apical margin; genital cap brownish-black with pale golden hairs; venter black, silvery gray pollinose except fourth sternum only lightly gray pollinose with short white hairs.

Male genitalia as in Figures 5–6.

Female. Unknown.

Holotype. ♂: NEPAL, Sundarijel, 3 May 1980, Ammon Freidberg coll., (National Museum of Natural History, Washington, D.C.).

Paratype. ♂: Same data as holotype.

Diagnosis. *M. graciliventrис* can be distinguished from the three previously described Oriental species by its abdominal shape: the petiolate abdomen of *M. petiolata* is much less than $\frac{1}{2}$ its maximum width (third segment) at its minimum (second segment); the abdomen of *M. graciliventrис* is only slightly constricted, or greater than $\frac{1}{2}$ its maximum width (third segment) at its minimum (second segment); and the abdomen of *M. orientalis* is more ovoid than that of the new species. *M. graciliventrис* can also be distinguished by the brown bands on the apical $\frac{1}{2}$ of each leg segment, lack of a prominent facial tubercle in the male, broad apical scutellar sulcus, and lack of scale-like pile.

Etymology. The name *graciliventrис* alludes to the slender constriction of the abdomen of the species.

ACKNOWLEDGMENTS

I thank sincerely F. Christian Thompson, Systematic Entomology Laboratory, Agricultural Research Service, Washington, D.C., for his encouragement, guidance and criticism in preparing this paper, for the loan of the specimens, and for reviewing the manuscript. In addition, I thank

Ray Gagné and an anonymous reviewer for commenting on the manuscript, Linda Lawrence for the drawings of the genitalia, M. A. Wolff for help with the cladogram, and F. E. Giles, Biology Dept., Loyola College, Baltimore, Maryland, and T. J. Kelly, Insect Reproduction Laboratory, Agricultural Research Service, Beltsville, Maryland, for their support and assistance.

LITERATURE CITED

- Brunetti, Enrico. 1923. Pipunculidae, Syrphidae, Conopidae, Oestridae. Diptera (vol. III). In: A. E. Shipley (ed.), Fauna of British India (q. v.). London, 424 pp.
- Thompson, F. C., 1971. Two new Oriental species of the genus *Myolepta* Newman (Diptera, Syrphidae). Proc. Entomol. Soc. Washington 73:343-347.
- Thompson, F. C. 1972. A contribution to a generic revision of the Neotropical Milesinae (Diptera: Syrphidae). Arq. Zool., São Paulo 23:73-215.
- Thompson, F. C. 1974. Descriptions of the first known Ethiopian *Myolepta* species, with a review of the subgeneric classification of *Myolepta* (Diptera: Syrphidae). Ann. Natal Mus. 22:325-334.

Received March 18, 1985; accepted September 17, 1985.